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10/604,988

08/29/2003

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INTERNATIONAL BUSINESS MACHINES CORPORATION

DEPT. 18G

BLDG. 300-482

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HOPEWELL JUNCTION, NY 12533

EXAMINER

DANG, PHUC T

ART UNIT

PAPER NUMBER

2818

DATE MAILED: 01/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/604,988

Applicant(s)

KHATER ET AL 8

Examiner

PHUC T DANG

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on Amendment filed on November 30, 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 8-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 13-26 is/are allowed.
- 6) ☒ Claim(s) 8 and 9 is/are rejected.
- 7) ☒ Claim(s) 10-12 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

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## **DETAILED ACTION**

### **Response to Arguments**

1. Applicant's arguments with respect to claims 8-26 have been considered but are moot in view of the new ground(s) rejection.

#### **Amendment**

2. Amendment filed on November 30, 2004 has been acknowledged.

In Amendment, Applicants cancel claims 1-7 and 27-30.

Claims 8-26 are currently pending in the application for examining at this time.

#### **Oath/Declaration**

3. The oath/declaration filed on August 29, 2003 is acceptable.

#### **Specification**

4. The specification has been checked to the extent necessary to determine the presence of all possible minor errors. However, the applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

### **Claim Rejections - 35 USC § 103**

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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5. Claims 8-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al., hereinafter "Lee" (U.S. Patent No. 5,506,157).

Regarding claim 8, Lee discloses a transistor comprising:

a portion of an emitter region (28, Fig. 4K) that is distanced (Fig. 4K) from an intrinsic base (27, Fig. 4K).

Lee discloses the features of the claimed invention as discussed above, but does not disclose an emitting landing pad. However, the emitting landing pad is considered to be obvious in variation of design, since the portion of the emitter region should have an emitting landing pad for electrical connection in the circuit.

Thus, it would have been obvious to one having ordinary skilled in the art at the time the invention was made to modify the teaching of Lee discussed above such that the emitting landing pad that is distanced from the intrinsic base for a purpose of providing higher electrical performance of the transistors.

Regarding claim 9, Lee discloses the remaining portion is distanced (25, Fig. 4K) from the intrinsic base (27, Fig. 4K) by extrinsic base layer (24, Fig. 4K), and the extrinsic base layer (24, Fig. 4K) includes an oxide section (34, Fig. 4K and col. 5, lines 1-3) that determines a distance between an emitter (28, Fig. 4K) and an extrinsic base (24, Fig. 4K).

#### **Allowable Subject Matter**

6. Claims 13-26 would be allowed.

The following is a statement of reason for the indication of allowable subject matter:

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Claims 13-26 are considered allowable since the prior art of record and the considered pertinent to the applicant's disclosure does not teach or suggest the claimed invention having a remaining portion of an emitter landing pad that separates each of the first and second extrinsic base layer from one another adjacent the emitter as recited in claim 13 and an oxide section in an extrinsic base layer, the oxide portion extending below a part of the remaining portion, wherein a width of the oxide section determines an amount of base resistance as recited in claim 23.

Claims 10-12 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

None of the Prior Art of record discloses a width of the oxide section determines a base resistance as recited in claim 10 and the width of the oxide section determines a length of the remaining portion that current must traverse as current passes through the extrinsic base as recited in claim 11 and the thickness of the oxide section is sufficient to prevent current from having to traverse the remaining portion as recited in claim 12.

### **Conclusion**

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phuc T. Dang whose telephone number is (571) 272-1776. The examiner can normally be reached on 8:00 am-5:00 pm.

8. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David C. Nelms can be reached on (571) 272-1787. The fax phone numbers for the organization

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where this application or proceeding is assigned are 703-872-9306 for regular communications and After Final communications.

9. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

Phuc T. Dang

PD 

Primary Examiner

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